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January 31, 1995

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

Mr. William F. Caton  
Acting Secretary  
Federal Communications Commission  
1919 M Street, N.W., Room 222  
Washington, D.C. 20554

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RE: Ex Parte Presentation - ET Docket No. 94-32

Dear Mr. Caton:

On this date, representatives of 3Com Corporation made an oral ex parte presentation to Ruth Milkman, Bruce A. Franca, Lawrence P. Petak and Steve Sharkey.

The purpose of the presentation was to support 3Com Corporation's comments in the *Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use* submitted in ET Docket No. 94-32, filed December 19, 1994. The discussion was limited to the technology of wireless Local Area Networks and the importance of continuing to allocate the 2402-2417 MHz band for use by Part 15 devices.

An original and one copy of this letter and the attachment hereto are being filed. If additional copies of this filing are required, 3Com Corporation will supply them immediately upon request.

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FLETCHER, HEALD & HILDRETH, P.L.C.

Mr. William F. Caton  
January 31, 1995  
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Should any question arise concerning this matter, or should any additional information be necessary or desired, please communicate with this office.

Very truly yours,

FLETCHER, HEALD & HILDRETH, P.L.C.



Frank R. Jazzo  
Kathryn A. Kleiman  
Counsel for 3Com Corporation

KAK/bl  
Enclosure

cc: Ms. Ruth Milkman (w/o enc.) (by hand)  
Mr. Bruce A. Franca (w/o enc.) (by hand)  
Mr. Lawrence P. Petak (w/o enc.) (by hand)  
Mr. Steve Sharkey (w/o enc.) (by hand)



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**Presentation to the  
Federal Communications Commission**

**The Need to preserve the 2402 - 2417 MHz  
Frequency Spectrum for  
Unlicensed Part 15 Operation  
ET Docket 94-32**

**David A. Fisher  
Manager Wireless Network Engineering  
3Com Corporation  
Santa Clara, CA**

**January 30, 1995**



# Outline

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- **3Com Corporate Overview**
- **Applications for Wireless In-Building LANs**
- **Requirements for Unlicensed Spectrum (Part 15)**
- **Conclusion**



## **3Com Corporate Overview**

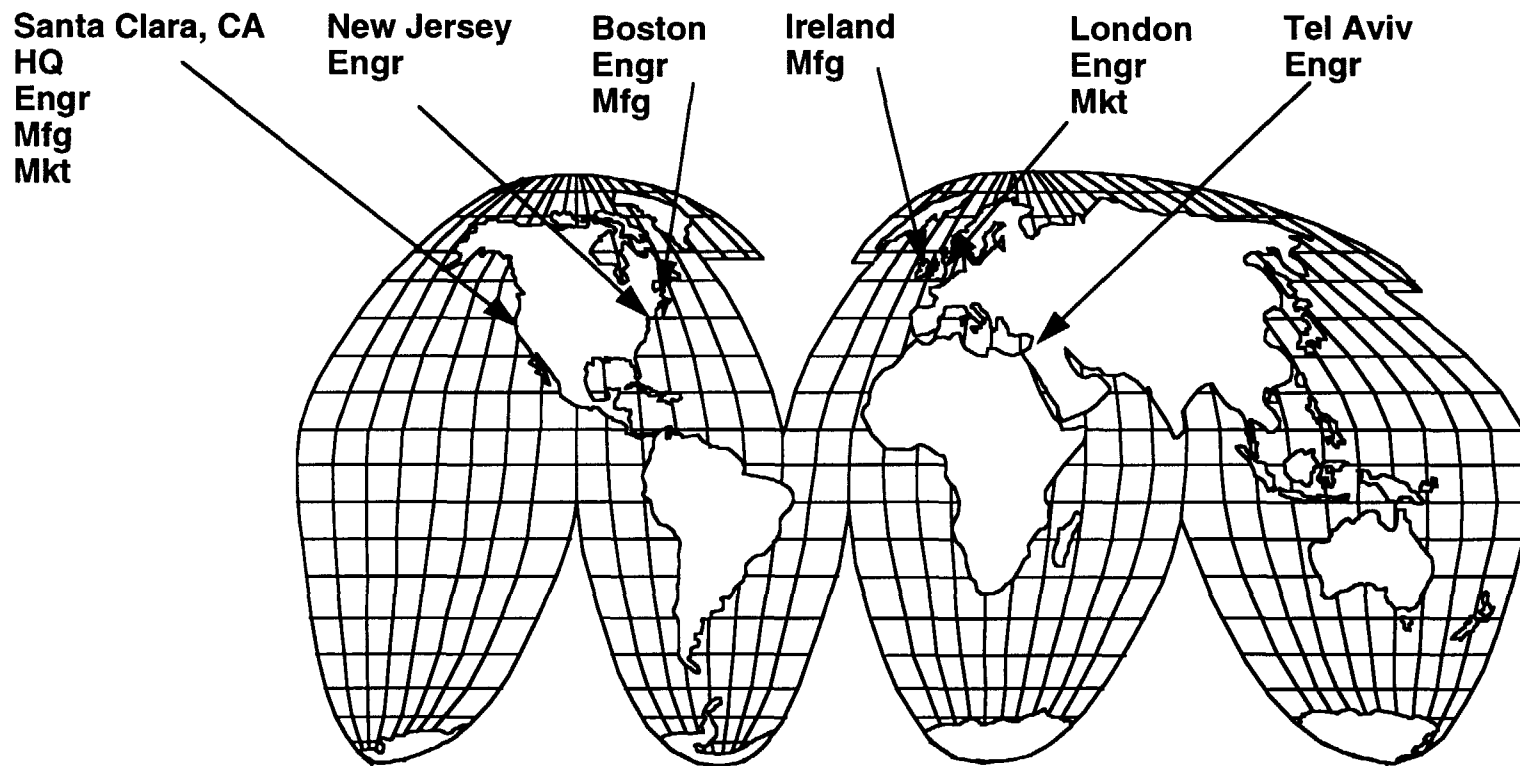
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- **3Com: Computers, Communications, & Compatibility**
- **Founded in 1979**
- **Pioneered Ethernet - The world's dominant computer data networking standard**
- **Data networking technology leader**
- **Fortune 500 company with CY 94 sales > \$1 Billion**
- **2600 employees with worldwide operations**



# 3Com: Global Data Networking

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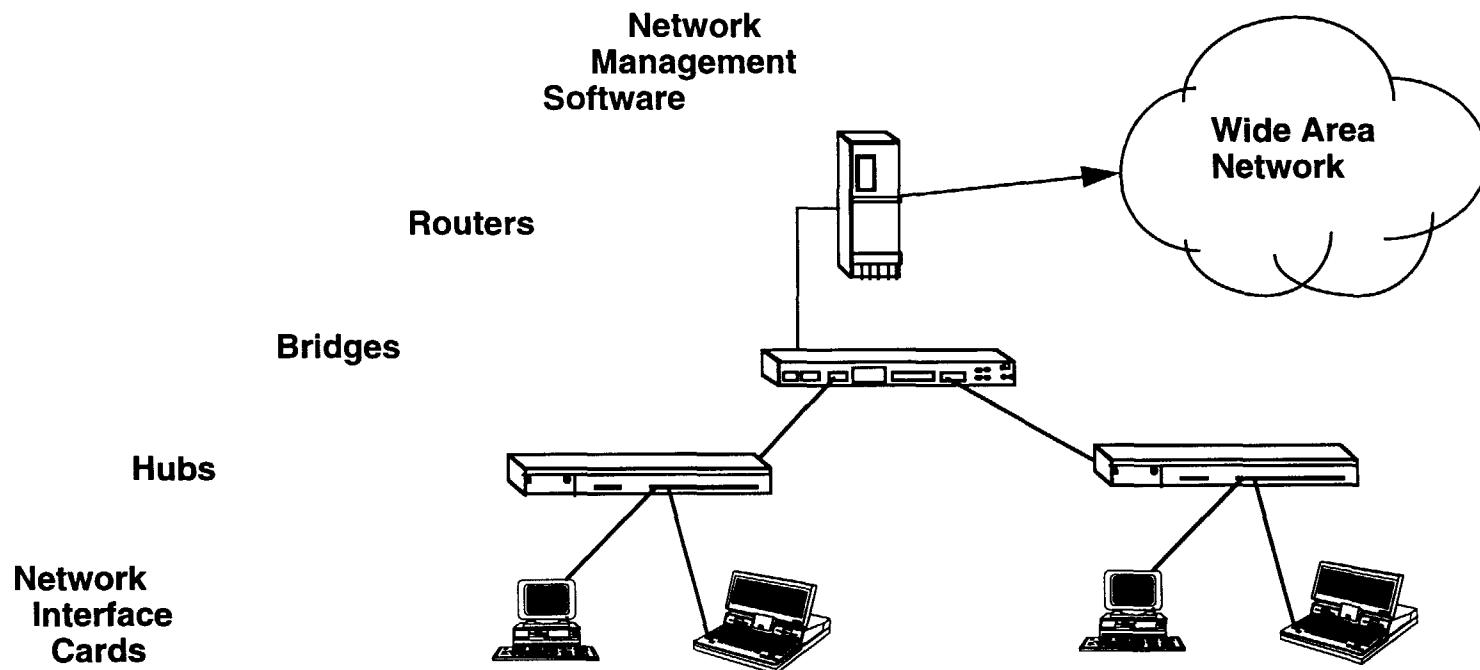




# 3Com: A Systems Provider

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The *ONLY* vertically integrated data networking company





## **3Com: Market Position**

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- **#1 in Ethernet Network Interface Cards**
- **38% World Wide Mkt Share**
- **#2 in Hubs**
- **#2 in Internetworking (Bridges & Routers)**
- **Broadest technology & product lines**
  - 10 Mbps & 100 Mbps Ethernet
  - 4 & 16 Mbps Token Ring
  - FDDI
  - ISDN
  - ATM
  - Wireless





## **The Goal of Wireless LANs**

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- **Create “cellular telephone - like” computer networks within buildings or campuses**
- **Access to the network any time, any where**
- **Ubiquitous on/off ramp to the information super highway**
- **Completes the portable computer**



# Why Wireless Data Communications?

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- **Change**
- **Mobile society**
- **Computers & data communications “Main Stream”**
- **The public needs and requires data communications just like they need and require voice communications**
- **New social & organizational structures**
- **Cost of ownership**
  - **Cost of installation & maintenance \$1500/person**
  - **Traditional wire is problematic for rapid cost effective deployment**



## **Wireless Applications**

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- **Public Buildings**
- **Schools**
- **Libraries**
- **Hospitals & health care facilities**
- **Corporations**
- **Transportation**
- **Retail Sales**
- **Home**



## **User Needs: Changing**

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- **New paradigm shift**
- **No longer voice communicating over many miles**
- **Communication needs are very localized**
  - within campus
  - within building
  - within a room
  - at a table
- **Communication needs are specialized**
- **“Last 10 feet” connection**
- **Communication systems no longer require expensive public infrastructure**



## **Why Part 15 & ISM?**

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- **Traditional licensed services lock in the product, application, & service**
- **User requirements vary significantly**
  - Voice communications are stable & mature
  - Data communications are changing rapidly
- **Promotes broad product offerings to address market needs**
- **Promotes technology innovation**
- **Promotes fast time to market in a dynamic industry**
- **Allows free market mechanisms to define best utilization of scarce resource**



## **Why 83.5 MHz of Bandwidth?**

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- **Voice data rate needs are not changing, capacity is**
- **Todays Cellular Telephone is about 10 Thousand bits/sec**
- **Todays Wired networks provide 10 Million bits/sec**
- **Next Generation (available 1995) provide 100 Million bits/sec**
- **Channel Requirements**
  - **One cellular voice channel = 30 kHz**
  - **One 10 Mbps data channel = 14 or 77 MHz, depending on technology & cost**
- **The future requires more bandwidth**



## **Market Size**

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- **1994 Market Size**
  - Data networking industry > \$14 Billion (est)
  - 15 Million network interface cards shipped 1994
  - > 100 Million network interface cards to date
  - Wireless networking industry = \$ 750 Million
- **Market Estimates for 2000**
  - Wireless Equipment & Services \$1.5 - 2 Billion
  - Productivity enhancements?



## **Conclusion**

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- **Society is more mobile**
- **Data communications becoming “Main Stream”**
- **Diverse products required to meet diverse needs**
- **The 2400 - 2483.5 MHz ISM band provides a unique opportunity for innovation of technologies, products, and services**
- **The availability of reliable spectrum will enable:**
  - **More effective use of the National Information Infrastructure**
  - **World wide technology leadership**
  - **Productivity enhancements in all sectors of US the economy**
  - **Growth in high value added jobs**





## **Recommendation**

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- **The FCC should preserve the existing 2400 - 2483.5 MHz ISM band**
- **The FCC should limit all uses of this band to Part 15 compliant unlicensed radio transmitters**
- **The FCC should not allow any radio transmitters in or around this band that would interfere with Part 15 devices**